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# The Russians Seek I.B.M. Compatibility

By DAVID E. SANGER

The Soviet electrical engineer in Perm, a city tucked away at the edge of the Ural mountains, was angry. Trying to boost his productivity, he had struggled in vain for a year to build his own personal computer, piecemeal, from parts dribbling out of Russian electronics factories. "Hundreds of thousands of bare computer components aren't needed by anybody," he wrote in *Literaturnaya Gazeta*, a weekly newspaper popular among the Soviet intelligentsia. "What we need instead are hundreds of thousands of complete computer systems."

Someone in the Kremlin agrees. Unable to produce enough of the homegrown "Agat" — a Soviet knockoff of an Apple II — the Russians have apparently decided to buy American. Less than two months after looser regulations on high technology exports went into effect in the West, several leading computer manufacturers, Apple and I.B.M. among them, are negotiating the sale of large numbers of personal computers to the Soviet Union.

What will the Russians do with them? In January, the Central Committee of the Communist Party, perhaps mindful that some of the most innovative computer programs are tapped out by adolescents, passed a resolution to put microcomputers in the schools. "In the literature, the goal seems to be a million computers in the schools by the year 2000," said Loren R. Graham, a professor at the Massachusetts Institute of Technology who specializes in Soviet science policy.

But American computer executives, while eager for business, know that no matter what the export licenses say, the Soviet Army will get first dibs on the merchandise. For several years, in fact, the K.G.B. has engaged in a well-oiled effort to buy the machines on the black market, at tremendous cost. However, Western middlemen helping the Soviet Union evade export rules have priced their wares according to the risk involved, and the Russians have often paid five times the value of the equipment. As a result, they have been unable to spare the hard currency to buy enough personal computers, and demand for small, versatile machines has become overwhelming.

Several segments of the Soviet bureaucracy are currently hunting for imports. Sinclair Research, the British company that sold millions of micros in England, is negotiating with the Soviet Ministry of Education. I.B.M. and Apple, makers of more sophisticated units, believe their machines are destined for the Soviet Academy of Sciences.

## Micros for the K.G.B.

"Many of the uses will be totally innocuous," says Seymour E. Goodman, a University of Arizona professor who is an expert in Soviet-made computers. "Some of the machines will probably be used for solving manufacturing problems. Some could make the Central Committee's staff work a lot more efficient."

But Professor Goodman entertains no illusions: "I wouldn't be surprised if K.G.B. officers were outfitted with their own micros, or if some went to the military."

As the Department of Defense told Congress last year, personal computers are as handy on the battlefield as on the desktop. United States forces in West Germany use Apples and other micros to guide small nuclear missiles. At home, the Army's Ninth Infantry Division has

combined several microcomputers, a larger minicomputer and a Panasonic videodisk into a command-and-control system that maintains electronic maps, keeps track of personnel and supplies and selects targets. It can be packed into an ambulance or airlifted any place in the world. "It's a first-rate system that is a tenth of the size and a hundredth of the price of what we've been using," said Stephen D. Bryen, Deputy Assistant Secretary of Defense.

Export of such systems to the Soviet Union would likely continue to be barred. Regulations also prohibit "hardened" machines designed to withstand battlefield conditions. But Defense Department officials say they have evidence the Russians have begun experimenting with micros on the battlefield, many apparently built with East German microprocessors and smuggled-in disk drives.

Will the export of the newly deregulated personal computers aid their military effort? Says Mr. Bryen: "We can stop any license in which the stated use is inappropriate, for whatever that's worth." It may not be worth much, however; once the machines are in the Soviet Union, there is no way American officials can control them.

Some, though, believe that computers may have some unintended side effects on Soviet life.

"There are some people who think we should airdrop them like CARE packages," said Professor Graham, "because they allow such personal freedom and fast communication that they will break up the society. That's right on the abstract level. But let's not fool ourselves — you aren't going to see any Apples and I.B.M.'s on Russia's retail shelves."